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**Networks Assigment2 report**

**The overall organization of the program :**

* **The program is divided in to two subprograms**
  + **A program simulating the server**
  + **A program simulating the client**
* **The server program is organized through running a main function which executes a while loop which**
  + - **First : listen for new connections**
    - **Accept new connection for incoming client**
    - **Check for the file requested**
    - **send the file in form of packets**
    - **the packet are sent in groups equal to the size to cwin**
    - **if stop and wait**
      * **then the server wait to receive the acknowledgment of each packet before sending the next one in the window**
    - **if selective repeat** 
      * **then the server send the group as a whole and receive the acknowledgment of all of them assigning each ack to the right packet**
      * **then after all acks are received the next group is then sent**
    - **if timeout the cwin is then reduced to 1**
    - **wait for new connections**
    - **close if time out**

**the time out is set to 3 secs if the ack is not received after that then the server will consider it a lost packet**

* **The client program is organized through running a main function which executes a while loop which :**
  + - **Request the desired file from server**
    - **Receive the file in form of packets**
    - **Send the acknowledgement for each packet received**
    - **Organize the packet and order them in the right order**
    - **Write the file**

**Major functions :**

**Server program :**

**Client program :**

**Data structures :**